



Rebecca J. Dulin
Senior Counsel

Duke Energy
1201 Main Street
Capital Center Building
Suite 1180
Columbia, SC 29201

o: 803.988.7130
f: 803.988.7123
Rebecca.Dulin@duke-energy.com

August 29, 2018

VIA ELECTRONIC FILING

The Honorable Jocelyn G. Boyd
Chief Clerk/Administrator
Public Service Commission of South Carolina
101 Executive Center Drive, Suite 100
Columbia, South Carolina 29210

Re: **Duke Energy Progress, LLC – Monthly Power Plant Performance
Report
Docket No. 2006-224-E**

Dear Ms. Boyd:

Pursuant to the Commission's Orders in Docket No. 1977-354-E, enclosed for filing is the Monthly Power Plant Performance Report in Docket No. 2006-224-E for the month of July 2018.

Should you have any questions regarding this matter, please do not hesitate to contact me at 803.988.7130.

Sincerely,

Rebecca J. Dulin

Enclosure

cc: Ms. Dawn Hipp, Office of Regulatory Staff
Mr. Jeffrey M. Nelson, Office of Regulatory Staff
Ms. Nanette Edwards, Office of Regulatory Staff
Mr. Michael Seaman-Huynh, Office of Regulatory Staff
Ms. Heather Shirley Smith, Duke Energy
Mr. Scott Elliott, Elliott & Elliott, P.A.
Mr. Garrett Stone, Brickfield, Burchette, Ritts & Stone, PC
Mr. Gary Walsh, Walsh Consulting, LLC

Duke Energy Progress
Base Load Power Plant Performance Review Plan

Page 1 of 23

Period: July, 2018

Station	Unit	Date of Outage	Duration of Outage	Scheduled / Unscheduled	Cause of Outage	Reason Outage Occurred	Remedial Action Taken
Brunswick	1	None					
	2	None					
Harris	1	None					
Robinson	2	None					

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
July 2018**

Lee Energy Complex

Unit	Duration of Outage	Type of Outage	Cause of Outage		Reason Outage Occurred	Remedial Action Taken
1A	7/23/2018 3:16:00 AM To 7/23/2018 3:21:00 AM	Unsch	6000	Heat Recovery Steam Generator To Gas Turbine Con..	CT runback to breaker open due to low HP Drum Level	
1B	7/10/2018 12:42:00 PM To 7/10/2018 6:08:00 PM	Unsch	5299	Other Gas Turbine Problems	Unit tripped to high blade path temp after load dump due to high rotor air cooler temp	

Richmond County Station

No Outages at Baseload Units During the Month.

Sutton Energy Complex

No Outages at Baseload Units During the Month.

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

**Duke Energy Progress
Base Load Power Plant Performance Review Plan**

Page 3 of 23

**July 2018
Brunswick Nuclear Station**

	<u>Unit 1</u>	<u>Unit 2</u>		
(A) MDC (mW)	938	932		
(B) Period Hours	744	744		
(C) Net Gen (mWh) and Capacity Factor (%)	706,914	101.30	609,806	87.94
(D) Net mWh Not Gen due to Full Schedule Outages	0	0.00	0	0.00
* (E) Net mWh Not Gen due to Partial Scheduled Outages	0	0.00	0	0.00
(F) Net mWh Not Gen due to Full Forced Outages	0	0.00	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-9,042	-1.30	83,602	12.06
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00	0	0.00
* (I) Core Conservation	0	0.00	0	0.00
(J) Net mWh Possible in Period	697,872	100.00%	693,408	100.00%
(K) Equivalent Availability (%)		100.00		88.75
(L) Output Factor (%)		101.30		87.94
(M) Heat Rate (BTU/NkWh)		10,480		10,946

* Estimate
FOOTNOTE: D and F Include Ramping Losses

ELECTRONICALLY FILED - 2018 August 29 10:46 AM - SCPSC - Docket # 2006-224-E - Page 4 of 24

**Duke Energy Progress
Base Load Power Plant Performance Review Plan**

Page 4 of 23

**July 2018
Harris Nuclear Station**

Unit 1

(A) MDC (mW)	932	
(B) Period Hours	744	
(C) Net Gen (mWh) and Capacity Factor (%)	724,583	104.50
(D) Net mWh Not Gen due to Full Schedule Outages	0	0.00
* (E) Net mWh Not Gen due to Partial Scheduled Outages	0	0.00
(F) Net mWh Not Gen due to Full Forced Outages	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-31,175	-4.50
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00
* (I) Core Conservation	0	0.00
(J) Net mWh Possible in Period	693,408	100.00%
(K) Equivalent Availability (%)		100.00
(L) Output Factor (%)		104.50
(M) Heat Rate (BTU/NkWh)		10,327

* Estimate
FOOTNOTE: D and F Include Ramping Losses

ELECTRONICALLY FILED - 2018 August 29 10:46 AM - SCPSC - Docket # 2006-224-E - Page 5 of 24

**Duke Energy Progress
Base Load Power Plant Performance Review Plan**

Page 5 of 23

**July 2018
Robinson Nuclear Station**

Unit 2

(A) MDC (mW)	741	
(B) Period Hours	744	
(C) Net Gen (mWh) and Capacity Factor (%)	548,790	99.54
(D) Net mWh Not Gen due to Full Schedule Outages	0	0.00
* (E) Net mWh Not Gen due to Partial Scheduled Outages	0	0.00
(F) Net mWh Not Gen due to Full Forced Outages	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	2,514	0.46
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00
* (I) Core Conservation	0	0.00
(J) Net mWh Possible in Period	551,304	100.00%
(K) Equivalent Availability (%)		100.00
(L) Output Factor (%)		99.54
(M) Heat Rate (BTU/NkWh)		10,811

* Estimate
FOOTNOTE: D and F Include Ramping Losses

ELECTRONICALLY FILED - 2018 August 29 10:46 AM - SCPSC - Docket # 2006-224-E - Page 6 of 24

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
July 2018**

Lee Energy Complex

	Unit 1A	Unit 1B	Unit 1C	Unit ST1	Block Total
(A) MDC (mW)	225	227	228	379	1,059
(B) Period Hrs	744	744	744	744	744
(C) Net Generation (mWh)	121,026	122,833	125,442	253,128	622,429
(D) Capacity Factor (%)	72.30	72.73	73.95	89.77	79.00
(E) Net mWh Not Generated due to Full Scheduled Outages	0	0	0	0	0
(F) Scheduled Outages: percent of Period Hrs	0.00	0.00	0.00	0.00	0.00
(G) Net mWh Not Generated due to Partial Scheduled Outages	40,915	42,098	43,152	12,042	138,208
(H) Scheduled Derates: percent of Period Hrs	24.44	24.93	25.44	4.27	17.54
(I) Net mWh Not Generated due to Full Forced Outages	19	1,233	0	0	1,252
(J) Forced Outages: percent of Period Hrs	0.01	0.73	0.00	0.00	0.16
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	745	745
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.26	0.09
(M) Net mWh Not Generated due to Economic Dispatch	5,440	2,723	1,038	16,060	25,261
(N) Economic Dispatch: percent of Period Hrs	3.25	1.61	0.61	5.70	3.21
(O) Net mWh Possible in Period	167,400	168,888	169,632	281,976	787,896
(P) Equivalent Availability (%)	75.55	74.34	74.56	95.46	82.21
(Q) Output Factor (%)	73.15	73.27	73.95	89.77	79.32
(R) Heat Rate (BTU/NkWh)	9,020	9,038	8,956	5,031	7,388

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
July 2018**

Richmond County Station

	Unit 7	Unit 8	Unit ST4	Block Total
(A) MDC (mW)	189	189	175	553
(B) Period Hrs	744	744	744	744
(C) Net Generation (mWh)	109,877	109,636	125,196	344,709
(D) Capacity Factor (%)	78.14	77.97	96.16	83.78
(E) Net mWh Not Generated due to Full Scheduled Outages	0	0	0	0
(F) Scheduled Outages: percent of Period Hrs	0.00	0.00	0.00	0.00
(G) Net mWh Not Generated due to Partial Scheduled Outages	26,040	26,784	4,464	57,288
(H) Scheduled Derates: percent of Period Hrs	18.52	19.05	3.43	13.92
(I) Net mWh Not Generated due to Full Forced Outages	0	0	0	0
(J) Forced Outages: percent of Period Hrs	0.00	0.00	0.00	0.00
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	0
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.00
(M) Net mWh Not Generated due to Economic Dispatch	4,699	4,196	540	9,435
(N) Economic Dispatch: percent of Period Hrs	3.34	2.98	0.41	2.29
(O) Net mWh Possible in Period	140,616	140,616	130,200	411,432
(P) Equivalent Availability (%)	81.48	80.95	96.57	86.08
(Q) Output Factor (%)	78.14	77.97	96.16	83.78
(R) Heat Rate (BTU/NkWh)	11,659	11,354	0	7,328

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
July 2018**

Richmond County Station

	Unit 9	Unit 10	Unit ST5	Block Total
(A) MDC (mW)	216	216	248	680
(B) Period Hrs	744	744	744	744
(C) Net Generation (mWh)	126,669	125,646	176,562	428,877
(D) Capacity Factor (%)	78.82	78.18	95.69	84.77
(E) Net mWh Not Generated due to Full Scheduled Outages	0	0	0	0
(F) Scheduled Outages: percent of Period Hrs	0.00	0.00	0.00	0.00
(G) Net mWh Not Generated due to Partial Scheduled Outages	31,248	30,504	0	61,752
(H) Scheduled Derates: percent of Period Hrs	19.44	18.98	0.00	12.21
(I) Net mWh Not Generated due to Full Forced Outages	0	0	0	0
(J) Forced Outages: percent of Period Hrs	0.00	0.00	0.00	0.00
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	0
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.00
(M) Net mWh Not Generated due to Economic Dispatch	2,787	4,554	7,950	15,291
(N) Economic Dispatch: percent of Period Hrs	1.73	2.83	4.31	3.02
(O) Net mWh Possible in Period	160,704	160,704	184,512	505,920
(P) Equivalent Availability (%)	80.56	81.02	100.00	87.79
(Q) Output Factor (%)	78.82	78.18	95.69	84.77
(R) Heat Rate (BTU/NkWh)	11,627	11,688	0	6,858

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
July 2018**

Sutton Energy Complex

	Unit 1A	Unit 1B	Unit ST1	Block Total
(A) MDC (mW)	224	224	271	719
(B) Period Hrs	744	744	744	744
(C) Net Generation (mWh)	126,693	126,611	172,202	425,506
(D) Capacity Factor (%)	76.02	75.97	85.41	79.54
(E) Net mWh Not Generated due to Full Scheduled Outages	0	0	0	0
(F) Scheduled Outages: percent of Period Hrs	0.00	0.00	0.00	0.00
(G) Net mWh Not Generated due to Partial Scheduled Outages	40,176	39,432	3,720	83,328
(H) Scheduled Derates: percent of Period Hrs	24.11	23.66	1.85	15.58
(I) Net mWh Not Generated due to Full Forced Outages	0	0	0	0
(J) Forced Outages: percent of Period Hrs	0.00	0.00	0.00	0.00
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	0
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.00
(M) Net mWh Not Generated due to Economic Dispatch	0	613	25,702	26,315
(N) Economic Dispatch: percent of Period Hrs	0.00	0.37	12.75	4.92
(O) Net mWh Possible in Period	166,656	166,656	201,624	534,936
(P) Equivalent Availability (%)	75.89	76.34	98.15	84.42
(Q) Output Factor (%)	76.02	75.97	85.41	79.54
(R) Heat Rate (BTU/NkWh)	12,013	11,971	0	7,139

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Intermediate Power Plant Performance
Review Plan
July 2018**

Mayo Station

Unit 1

(A) MDC (mW)	746
(B) Period Hrs	744
(C) Net Generation (mWh)	147,620
(D) Net mWh Possible in Period	555,024
(E) Equivalent Availability (%)	97.45
(F) Output Factor (%)	26.60
(G) Capacity Factor (%)	26.60

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

**Duke Energy Progress
Intermediate Power Plant Performance
Review Plan
July 2018**

	Roxboro Station		
	Unit 2	Unit 3	Unit 4
(A) MDC (mW)	673	698	711
(B) Period Hrs	744	744	744
(C) Net Generation (mWh)	151,194	186,169	248,885
(D) Net mWh Possible in Period	500,712	519,312	528,984
(E) Equivalent Availability (%)	99.12	98.39	93.88
(F) Output Factor (%)	36.77	35.85	47.05
(G) Capacity Factor (%)	30.20	35.85	47.05

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

Duke Energy Progress
Base Load Power Plant Performance Review Plan

Page 12 of 23

August 2017 - July 2018
Brunswick Nuclear Station

	<u>Unit 1</u>	<u>Unit 2</u>		
(A) MDC (mW)	938	932		
(B) Period Hours	8760	8760		
(C) Net Gen (mWh) and Capacity Factor (%)	7,301,436	88.86	7,778,325	95.27
(D) Net mWh Not Gen due to Full Schedule Outages	733,172	8.92	0	0.00
* (E) Net mWh Not Gen due to Partial Scheduled Outages	120,926	1.47	43,408	0.53
(F) Net mWh Not Gen due to Full Forced Outages	58,391	0.71	144,274	1.77
* (G) Net mWh Not Gen due to Partial Forced Outages	2,955	0.04	198,313	2.43
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00	0	0.00
* (I) Core Conservation	0	0.00	0	0.00
(J) Net mWh Possible in Period	8,216,880	100.00%	8,164,320	100.00%
(K) Equivalent Availability (%)		88.91		95.59
(L) Output Factor (%)		98.33		96.99
(M) Heat Rate (BTU/NkWh)		10,455		10,755

* Estimate

FOOTNOTE: D and F Include Ramping Losses

Duke Energy Progress
Base Load Power Plant Performance Review Plan

Page 13 of 23

August 2017 - July 2018
Harris Nuclear Station

Unit 1

(A) MDC (mW)	932	
(B) Period Hours	8760	
(C) Net Gen (mWh) and Capacity Factor (%)	7,315,167	89.76
(D) Net mWh Not Gen due to Full Schedule Outages	756,318	9.28
* (E) Net mWh Not Gen due to Partial Scheduled Outages	118,314	1.45
(F) Net mWh Not Gen due to Full Forced Outages	146,239	1.79
* (G) Net mWh Not Gen due to Partial Forced Outages	-186,410	-2.28
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00
* (I) Core Conservation	0	0.00
(J) Net mWh Possible in Period	8,149,628	100.00%
(K) Equivalent Availability (%)		87.14
(L) Output Factor (%)		100.92
(M) Heat Rate (BTU/NkWh)		10,539

* Estimate

FOOTNOTE: D and F Include Ramping Losses

**Duke Energy Progress
Base Load Power Plant Performance Review Plan**

Page 14 of 23

**August 2017 - July 2018
Robinson Nuclear Station**

Unit 2

(A) MDC (mW)	741	
(B) Period Hours	8760	
(C) Net Gen (mWh) and Capacity Factor (%)	6,604,498	101.75
(D) Net mWh Not Gen due to Full Schedule Outages	129,922	2.00
* (E) Net mWh Not Gen due to Partial Scheduled Outages	24,563	0.38
(F) Net mWh Not Gen due to Full Forced Outages	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-267,823	-4.13
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00
* (I) Core Conservation	0	0.00
(J) Net mWh Possible in Period	6,491,160	100.00%
(K) Equivalent Availability (%)		97.72
(L) Output Factor (%)		103.82
(M) Heat Rate (BTU/NkWh)		10,347

* Estimate
FOOTNOTE: D and F Include Ramping Losses

ELECTRONICALLY FILED - 2018 August 29 10:46 AM - SCPSC - Docket # 2006-224-E - Page 15 of 24

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
August, 2017 through July, 2018**

Lee Energy Complex

	Unit 1A	Unit 1B	Unit 1C	Unit ST1	Block Total
(A) MDC (mW)	224	225	226	379	1,054
(B) Period Hrs	8,760	8,760	8,760	8,760	8,760
(C) Net Generation (mWh)	1,440,494	1,445,410	1,464,772	2,843,392	7,194,068
(D) Capacity Factor (%)	73.36	73.37	74.02	85.64	77.92
(E) Net mWh Not Generated due to Full Scheduled Outages	109,461	108,516	109,909	132,069	459,954
(F) Scheduled Outages: percent of Period Hrs	5.57	5.51	5.55	3.98	4.98
(G) Net mWh Not Generated due to Partial Scheduled Outages	262,490	267,529	268,598	79,505	878,121
(H) Scheduled Derates: percent of Period Hrs	13.37	13.58	13.57	2.39	9.51
(I) Net mWh Not Generated due to Full Forced Outages	9,577	4,147	3,089	17,030	33,842
(J) Forced Outages: percent of Period Hrs	0.49	0.21	0.16	0.51	0.37
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	10,247	10,247
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.31	0.11
(M) Net mWh Not Generated due to Economic Dispatch	141,632	144,554	132,547	237,797	656,531
(N) Economic Dispatch: percent of Period Hrs	7.21	7.34	6.70	7.16	7.11
(O) Net mWh Possible in Period	1,963,654	1,970,155	1,978,915	3,320,040	9,232,764
(P) Equivalent Availability (%)	80.58	80.72	80.73	92.81	85.03
(Q) Output Factor (%)	78.62	78.21	78.82	90.03	82.72
(R) Heat Rate (BTU/NkWh)	9,074	9,105	9,028	4,458	7,247

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
August, 2017 through July, 2018**

Richmond County Station

	Unit 7	Unit 8	Unit ST4	Block Total
(A) MDC (mW)	189	189	175	553
(B) Period Hrs	8,760	8,760	8,760	8,760
(C) Net Generation (mWh)	1,239,907	1,228,953	1,389,709	3,858,569
(D) Capacity Factor (%)	74.89	74.23	90.65	79.65
(E) Net mWh Not Generated due to Full Scheduled Outages	124,472	127,635	116,973	369,080
(F) Scheduled Outages: percent of Period Hrs	7.52	7.71	7.63	7.62
(G) Net mWh Not Generated due to Partial Scheduled Outages	168,235	172,289	30,084	370,609
(H) Scheduled Derates: percent of Period Hrs	10.16	10.41	1.96	7.65
(I) Net mWh Not Generated due to Full Forced Outages	0	1,660	747	2,407
(J) Forced Outages: percent of Period Hrs	0.00	0.10	0.05	0.05
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	0
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.00
(M) Net mWh Not Generated due to Economic Dispatch	123,026	125,103	0	243,616
(N) Economic Dispatch: percent of Period Hrs	7.43	7.56	0.00	5.03
(O) Net mWh Possible in Period	1,655,640	1,655,640	1,533,000	4,844,280
(P) Equivalent Availability (%)	82.32	81.78	90.36	84.68
(Q) Output Factor (%)	81.17	80.96	98.52	86.59
(R) Heat Rate (BTU/NkWh)	11,393	11,176	0	7,221

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
August, 2017 through July, 2018**

Richmond County Station

	Unit 9	Unit 10	Unit ST5	Block Total
(A) MDC (mW)	215	215	248	678
(B) Period Hrs	8,760	8,760	8,760	8,760
(C) Net Generation (mWh)	1,406,414	1,429,320	1,879,186	4,714,920
(D) Capacity Factor (%)	74.62	75.83	86.50	79.35
(E) Net mWh Not Generated due to Full Scheduled Outages	179,383	173,853	206,807	560,044
(F) Scheduled Outages: percent of Period Hrs	9.52	9.22	9.52	9.42
(G) Net mWh Not Generated due to Partial Scheduled Outages	192,032	189,915	5,103	387,051
(H) Scheduled Derates: percent of Period Hrs	10.19	10.08	0.23	6.51
(I) Net mWh Not Generated due to Full Forced Outages	16,755	277	0	17,032
(J) Forced Outages: percent of Period Hrs	0.89	0.01	0.00	0.29
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	1,582	1,582
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.07	0.03
(M) Net mWh Not Generated due to Economic Dispatch	90,230	91,448	79,801	261,479
(N) Economic Dispatch: percent of Period Hrs	4.79	4.85	3.67	4.40
(O) Net mWh Possible in Period	1,884,814	1,884,814	2,172,480	5,942,108
(P) Equivalent Availability (%)	79.40	80.69	90.17	83.75
(Q) Output Factor (%)	83.89	83.63	95.60	88.11
(R) Heat Rate (BTU/NkWh)	11,370	11,356	0	6,834

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Base Load Power Plant
Performance Review Plan
August, 2017 through July, 2018**

Sutton Energy Complex

	Unit 1A	Unit 1B	Unit ST1	Block Total
(A) MDC (mW)	224	224	269	718
(B) Period Hrs	8,760	8,760	8,760	8,760
(C) Net Generation (mWh)	1,312,025	1,351,493	1,629,384	4,292,902
(D) Capacity Factor (%)	66.74	68.75	69.06	68.24
(E) Net mWh Not Generated due to Full Scheduled Outages	246,099	211,716	288,556	746,370
(F) Scheduled Outages: percent of Period Hrs	12.52	10.77	12.23	11.86
(G) Net mWh Not Generated due to Partial Scheduled Outages	239,836	234,997	60,492	535,325
(H) Scheduled Derates: percent of Period Hrs	12.20	11.95	2.56	8.51
(I) Net mWh Not Generated due to Full Forced Outages	23,501	32,347	4,922	60,770
(J) Forced Outages: percent of Period Hrs	1.20	1.65	0.21	0.97
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	29,489	29,489
(L) Forced Derates: percent of Period Hrs	0.00	0.00	1.25	0.47
(M) Net mWh Not Generated due to Economic Dispatch	144,452	135,360	346,425	626,237
(N) Economic Dispatch: percent of Period Hrs	7.35	6.89	14.68	9.95
(O) Net mWh Possible in Period	1,965,913	1,965,913	2,359,268	6,291,094
(P) Equivalent Availability (%)	74.07	75.62	83.80	78.19
(Q) Output Factor (%)	78.58	79.35	78.93	78.96
(R) Heat Rate (BTU/NkWh)	11,502	11,430	0	7,114

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Intermediate Power Plant
Performance Review Plan
August, 2017 through July, 2018**

Mayo Station

Units	Unit 1
(A) MDC (mW)	746
(B) Period Hrs	8,760
(C) Net Generation (mWh)	1,605,685
(D) Net mWh Possible in Period	6,534,960
(E) Equivalent Availability (%)	87.51
(F) Output Factor (%)	44.26
(G) Capacity Factor (%)	24.57

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

**Duke Energy Progress
Intermediate Power Plant
Performance Review Plan
August, 2017 through July, 2018**

Roxboro Station

Units	Unit 2	Unit 3	Unit 4
(A) MDC (mW)	673	698	711
(B) Period Hrs	8,760	8,760	8,760
(C) Net Generation (mWh)	1,857,185	2,178,024	1,578,119
(D) Net mWh Possible in Period	5,895,480	6,114,480	6,228,360
(E) Equivalent Availability (%)	78.79	80.01	53.52
(F) Output Factor (%)	57.42	53.06	62.13
(G) Capacity Factor (%)	31.50	35.62	25.34

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

Duke Energy Progress
Outages for 100 mW or Larger Units
July, 2018

Page 21 of 23

<u>Unit Name</u>	<u>Capacity Rating (mW)</u>	<u>Full Outage Hours</u>		<u>Total</u>
		<u>Scheduled</u>	<u>Unscheduled</u>	
Brunswick 1	938	0.00	0.00	0.00
Brunswick 2	932	0.00	0.00	0.00
Harris 1	932	0.00	0.00	0.00
Robinson 2	741	0.00	0.00	0.00

Duke Energy Progress
Outages for 100 mW or Larger Units
July 2018

Unit Name	Capacity Rating (mW)	Full Outage Hours		Total Outage Hours
		Scheduled	Unscheduled	
Asheville Steam 1	192	39.62	0.00	39.62
Asheville Steam 2	192	0.00	0.00	0.00
Asheville CT 3	185	0.00	0.00	0.00
Asheville CT 4	185	0.00	5.45	5.45
Darlington CT 12	133	24.17	0.45	24.62
Darlington CT 13	133	0.00	0.00	0.00
Lee Energy Complex CC 1A	225	0.00	0.08	0.08
Lee Energy Complex CC 1B	227	0.00	5.43	5.43
Lee Energy Complex CC 1C	228	0.00	0.00	0.00
Lee Energy Complex CC ST1	379	0.00	0.00	0.00
Mayo Steam 1	746	0.00	0.00	0.00
Richmond County CT 1	189	0.00	13.65	13.65
Richmond County CT 2	187	5.20	0.00	5.20
Richmond County CT 3	185	0.00	0.00	0.00
Richmond County CT 4	186	0.00	0.00	0.00
Richmond County CT 6	187	0.00	0.00	0.00
Richmond County CC 7	189	0.00	0.00	0.00
Richmond County CC 8	189	0.00	0.00	0.00
Richmond County CC ST4	175	0.00	0.00	0.00
Richmond County CC 9	216	0.00	0.00	0.00
Richmond County CC 10	216	0.00	0.00	0.00
Richmond County CC ST5	248	0.00	0.00	0.00

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

Duke Energy Progress
Outages for 100 mW or Larger Units
July 2018

Unit Name	Capacity Rating (mW)	Full Outage Hours		Total Outage Hours
		Scheduled	Unscheduled	
Roxboro Steam 1	380	9.15	0.00	9.15
Roxboro Steam 2	673	0.00	0.00	0.00
Roxboro Steam 3	698	0.00	0.00	0.00
Roxboro Steam 4	711	0.00	0.00	0.00
Sutton Energy Complex CC 1A	224	0.00	0.00	0.00
Sutton Energy Complex CC 1B	224	0.00	0.00	0.00
Sutton Energy Complex CC ST1	271	0.00	0.00	0.00
Wayne County CT 10	192	0.00	0.00	0.00
Wayne County CT 11	192	0.00	25.50	25.50
Wayne County CT 12	193	0.00	0.00	0.00
Wayne County CT 13	191	0.00	0.00	0.00
Wayne County CT 14	195	0.00	0.00	0.00

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.